

**Amendments To the Claims:**

Please amend the claims as shown. Applicants reserve the right to pursue any cancelled claims at a later date.

1.-6. (cancelled)

7. (new) A method of allocating station addresses to communication users arranged in a bus system, wherein communication on the bus system is organized in communication cycles, and

    a first communication user is configured to:

        autonomously transmit data on the bus system,

        allocate data to a station address, the data uniquely identifying a further communication user, or characterize the station address as not allocated, the method comprising the following steps to be executed in one communication cycle:

            transmitting a first data packet to each station address by the first communication user, the first data packet including data allocated to the respective station address, the data uniquely identifying the respective further communication user;

            transmitting a second data packet to the first communication user by at least one of the further communication users, the second data packet including the station address and data uniquely identifying the at least one further communication user;

            allocating the data uniquely identifying the at least one further communication user to the station address of the at least one further communication user, by the first communication user; and

            transmitting a third data packet to all communication users different from the first communication user, by the first communication user, the third data packet including information about which of the station addresses are characterized as not allocated, wherein such communication user which has already transmitted the second data package uniquely identifying such communication user in a previous communication cycle and which will receive the first data package in a subsequent communication cycle, the first data package then having data not uniquely identifying such communication user,

automatically changes its station address to correspond to one of the station addresses characterized as not allocated, based on the third data packet.

8. (new) The method according to claim 7, wherein the communication cycles have a variable cycle time.

9. (new) The method according to claim 7, further comprising:  
storing device information about the at least one further communication user in a memory device assigned to the at least one further communication user;  
accessing the stored device information via the bus system by the first communication user; and  
reading the stored device information by the first communication user.

10. (new) The method according to claim 9, further comprising automatically configuring the bus system by repeating the method steps.

11. (new) A communication user in a bus system having station addresses, comprising an allocation mechanism configured to allocate data uniquely identifying a further communication user to at least one station address of the bus system and to characterize at least a further station address as not allocated.

12. (new) A communication user in a bus system having station addresses, comprising:

a transmission mechanism for transmitting a second data packet to a first communication user, the second data packet including data uniquely identifying the communication user; and

an address mechanism for automatically changing a current station address of the communication user.